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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,172	11/13/2001	Yoshitaka Ohshima	Q67033	6575

7590 07/17/2003

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EXAMINER

QUARTERMAN, KEVIN J

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,172

Applicant(s)

OHSIMA ET AL.

Examiner

Kevin Quarterman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-8, in Paper No. 7 is acknowledged.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The following title is suggested: --ARC TUBE HAVING COMPRESSIVE STRESS AND METHOD FOR MANUFACTURE OF AN ARC TUBE--.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 3-4 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Regarding claims 3-4, both claims state "the foil is elongated no more than 15% of the foil's pre-pinch seal dimensions." It is unclear to the Examiner what the foil's pre-pinch seal dimensions are. The phrase is not clearly defined in the claim or specification. Due to its dependency upon claim 3, claim 7 is also deemed indefinite for the same reasons.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Horiuchi (US 6368175).

9. Regarding independent claim 1, Figure 1 of Horiuchi shows an arc tube (1) comprising a quartz arc tube body (2a, 2b) and a molybdenum foil (4) joined with the arc tube body by a pinch seal, the arc tube body having a compressive stress of 10^5 N/m² or more along a junction surface with the molybdenum foil at an ordinary temperature (col. 8, ln. 2-3).

10. Regarding claim 2, Figure 1 of Horiuchi shows a ratio A/B of a width A and a thickness B in a pinch seal portion of the arc tube being $1.8 \leq A/B \leq 2.8$.

11. Regarding claims 3-4, Figure 1 of Horiuchi shows the foil being elongated no more than 15% of the foil's pre-pinch seal dimensions.

12. Regarding claim 8, Horiuchi discloses that the foil contains molybdenum (col. 11, ln. 17-18).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi in view of Irisawa (US 5962976).

15. Regarding claims 5-7, Horiuchi teaches each of the limitations of independent claim 1, as discussed earlier, but fails to exemplify a plurality of cracks formed on the junction surface of the foil and the arc tube body, wherein a maximum depth of the cracks is 50% or less of a thickness of the molybdenum foil.

16. Figure 4 of Irisawa teaches that it is known in the art to provide an arc tube with a plurality of cracks formed on the junction surface of a foil (5) and the arc tube body (4), wherein a maximum depth of the cracks is 50% or less of a thickness of the foil. Irisawa discloses that this arrangement is provided for scattering stresses applied to the pinch seals (col. 5, ln. 3-14).

17. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the arc tube of Horiuchi with foils having a plurality of cracks, as taught by Irisawa, for increasing the junction strength of the foil and the arc tube body.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohshima (US 6452334) discloses an arc tube with residual-compressive-stress layer for discharge lamp unit. Motiduki (US 5757110) discloses a discharge lamp with filtering globe. Higashimoto (US 6356018) discloses an arc tube with intermediate layer.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman
Examiner
Art Unit 2879

kq 
July 9, 2003



Vip Patel
Primary Examiner
Art Unit 2879